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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,690	12/14/2001	Toshiaki Iwafuchi	0112857-306	2929

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EXAMINER
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EVERHART, CARIDAD

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 10/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/024,690

Applicant(s)

IWAFUCHI ET AL.

Examiner

Caridad M. Everhart

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12 and 14 is/are rejected.
- 7) ☒ Claim(s) 8, 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

#### ***(e) the invention was described in-***

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 1,3,4, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Buchwalter, et al. ("Buchwalter")(US 2002/0078559A1).

Buchwalter discloses the steps of selectively irradiation of a release layer (paragraph 0053) in order to release a layer from a temporary substrate. The device of the layer which is released is transferred to another substrate from a transfer substrate(paragraphs 0055, 0058, and 0059). The device comprises an optical device(paragraphs 0005 and 0037). There may be an adhesive layer (paragraph 0053) and the release step comprises laser ablation (paragrph 0053).

Claims 1, 3, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelly, et al. ("Kelly")(US 5,929,962).

Kelly discloses a method comprising the steps of selectively laser ablating a separation layer in order to separate a layer which is attached to a temporary substrate. The layer is then transferred to a substrate(col. 7, lines 55-62; col. 8, lines 1-5 and 47-52; and col. 9, lines 1-27). The material may be a nitride, AlN(col. 8, lines 40-45).

### ***Claim Rejections - 35 USC § 103***

Claims 2, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwalter in view of Cheung, et al ("Cheung")(US 6,420,242B1).

Buchwalter does not teach the cleaning step nor the GaN material.

Cheung discloses a bonding and releasing method in which there is a cleaning step(col. 5, lines 42-46) and in which the separated layer comprises GaN(col. 6, lines 18-37 and col. 4, lines 32-43).

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One of ordinary skill in the art would have been motivated to have included a cleaning step as taught by Cheung in the process disclosed by Buchwalter in order to remove residue.

One of ordinary skill in the art would have been motivated to have used GaN as taught by Cheung in the process taught by Buchwalter because both references teach optical devices, and the use of GaN in such devices is known in the art.

Claims 11 and 12<sup>and 14</sup> are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwalter et al as applied to claim 1 in view of Chiu, et al. ("Chiu")(US 5,929,962) and further in view of Hatanaka, et al. ("Hatanaka")(US 4,451,634).

Buchwalter does not teach silicone, although Buchwalter does teach adhesive(paragraph 0053).

Chiu discloses a UV curable adhesive which can later be laser ablated in the separation of substrate layers (col. 4, lines 33-44 and 60-65 and col. 5, lines 42-50 and 58-64).

Hatanaka discloses a UV curable silicone adhesive which can be used in semiconductor processes(col. 1, lines 5-8; col. 2, lines 13-16; and col. 5, lines 1-3).

In view of the disclosure by Chiu that UV curable adhesive can be laser ablated, in a similar process as that taught by Buchwalter, and of Hatanaka of UV curable silicones which can be used as adhesives in semiconductor processing as well as other substrates, one of ordinary skill in the art would have been motivated to have used silicone UV curable adhesive in the process taught by Buchwalter.

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***Allowable Subject Matter***

Claims 8 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or suggest the pointed regions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 703-308-3455. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 703-308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

*C. Everhart*  
CARIDAD EVERHART  
PATENT EXAMINER